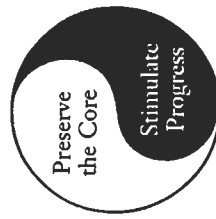


TRY A LOT OF STUFF AND KEEP WHAT WORKS



To my imagination it is far more satisfactory to look at [well-adapted species] not as specially endowed or created instincts, but as small consequences of one general law leading to the advancement of all organic beings—namely, multiply, vary, let the strongest live and the weakest die.

CHARLES DARWIN, *ORIGIN OF SPECIES*, 1859¹

Our company has, indeed, *stumbled* onto some of its new products. But never forget that you can only stumble if you're moving.

RICHARD P. CARLTON, FORMER CEO, 3M CORPORATION, 1950²

Failure is our most important product.

R. W. JOHNSON, JR., FORMER CEO, JOHNSON & JOHNSON, 1954³

In examining the history of the visionary companies, we were struck by how often they made some of their best moves not by detailed strategic planning, but rather by experimentation, trial and error, opportunism, and—quite literally—accident. What looks in hindsight like a brilliant strategy was often the residual result of opportunistic experimentation and “purposeful accidents.” Consider the following examples at Johnson & Johnson, Marriott, and American Express.

Johnson & Johnson's Accidental Move into Consumer Products

In 1890, Johnson & Johnson—then primarily a supplier of antiseptic gauze and medical plasters—received a letter from a physician who complained about patient skin irritation from certain medicated plasters. Fred Kilmer, the company's director of research, quickly responded by sending a packet of soothing Italian talc to apply on the skin. He then convinced the company to include a small can of talc as part of the standard package with certain products. To the company's surprise, customers soon began asking to buy more of the talc directly. J&J responded by creating a separate product called “Johnson's Toilet and Baby Powder,” which became a famous household staple around much of the world. According to J&J's own official history, “the Johnsons got into the baby powder business quite by accident.”⁴ Even more significant, the company thereby took a tiny incremental step that eventually mushroomed into a significant strategic shift into consumer products—an “accident” which eventually grew to become 44 percent of J&J's revenues—and as important to its growth as medical supplies and pharmaceutical products.⁵

Later, J&J stumbled upon another famous product by accident. In 1920, company employee Earle Dickson created a ready-to-use bandage—made of surgical tape with small pieces of gauze and a special covering so it would not stick to the skin—for his wife who had a knack for cutting herself with kitchen knives. When he mentioned his invention to the marketing people, they decided to experiment with the product on the market. Eventually, after a slow start and a never-ending process of tinkering, Band-Aid products became the biggest selling category in the company's history and further solidified J&J's “accidental” strategic move into consumer products.⁶

Marriott's Opportunistic Step into Airport Services

In 1937—ten years after opening his first root beer stand—J. Willard Marriott had built a chain of nine profitable restaurants staffed by two hundred zealous employees trained in the company's meticulous methods of cus-

tomers service. Marriott clearly had a system that worked. With plans to double the number of restaurants over the next three years, the future prospects of the emerging company never looked brighter. J. Willard and his management team would certainly attain great success—and, just as certain, have their hands full—if they simply focused on executing the restaurant expansion plan.

But what to do about the odd emerging situation at Marriott shop number eight? Located near Hoover Airport in Washington, D.C., number eight had attracted an entirely different clientele than other Marriott shops: Passengers on their way to catch a flight began purchasing meals and snacks which they stuffed in pockets, paper bags, and carry-on luggage. "Well how about that," said Marriott during an inspection visit to number eight. "Coming in here and buying things to eat on the plane?"

"Every day," his store manager explained, "we get a few more of them."

Marriott pondered the situation overnight, according to Robert O'Brien in the book *Marriott*. The very next day, he paid a visit to Eastern Air Transport and created a new business arrangement whereby shop number eight would deliver prepackaged box lunches directly onto the tarmac in a bright orange truck with Marriott's logo and lettering on the side. Within a few months, the service expanded to American Airlines and catered twenty-two flights per day. Marriott soon put a full-time manager in charge of the emerging business, with the mission to fully develop it at Hoover and expand it to other airports. Airport services evolved from the seed of that unexpected opportunity to become a major business for Marriott Corporation, eventually reaching more than a hundred separate airports.*

Marriott could have bogged down in long meetings and strategic analyses to decide what to do. The unusual clientele at number eight presented Marriott with an odd variation to its traditional customer base. The company could have ignored it, but chose instead to experiment—to actually test and see if this "odd variation" might prove to be a *favorable* variation. Marriott made an incremental shift in corporate strategy by quick, vigorous action taken to seize upon a stroke of unexpected good luck. The step looks brilliant in retrospect, but in reality was simply the result of an opportunistic experiment that happened to work out.

American Express's Unintended Evolution Into Financial and Travel Services

American Express began life in 1850 as a regional freight express business (essentially the nineteenth-century equivalent of the United Parcel Service). In 1882, the company took a small, incremental step that turned out to be the genesis of a dramatic strategic shift. Due to the increasingly pop-

ular postal money order, American Express faced declining demand for its cash-shipping services (similar to an armored car service). In response, AmEx created its own money order. The "Express Money Order" became an unexpected success—11,959 of them sold during the first six weeks. AmEx aggressively seized the opportunity and began selling the product not only at its own offices, but also at railroad stations and general stores, and thereby began—unwittingly—to transform itself into a financial services company.⁹

A decade later, in 1892, American Express president J. C. Fargo took a European vacation, where he found it difficult to translate his letters of credit into cash—a problem (and therefore an opportunity) which impelled a further shift in the company's trajectory. In his book *American Express 1850-1950*, Alden Hatch wrote:

On his return, [Fargo] stalked through the corridors of 65 Broadway with more than his usual preoccupation. . . . He walked right past his own office to that of [employee Marcellus] Berry. "Berry," he said, omitting a salutation and going straight to the point, "I had a lot of trouble cashing my letters of credit. The moment I got off the beaten track they were no more use than so much wet wrapping paper. If the president of American Express has that sort of trouble, just think what ordinary travelers face. Something has got to be done about it."¹⁰

Berry did indeed do something about it. He created an elegant solution which required simply a signature upon purchase and a countersignature upon redemption, which eventually became known around the world as the ubiquitous "American Express Travelers Cheque." The mechanics of the traveler's check gave American Express an unexpected bonus: Due to lost checks and delays, the company sold more orders than it redeemed each month, which created a cash cushion. According to Jon Friedman and John Meehan in *House of Cards*:

Unintentionally, AmEx had invented the 'float.' . . . A mere \$750 at the beginning, the float would eventually top \$4 billion by 1990, generating \$200 million in revenue. The company had virtually [and accidentally] created a new international currency.¹¹

In what started as just another incremental, opportunistic step, the traveler's check further evolved American Express toward financial services. AmEx didn't plan to become a financial services company. Nonetheless, it became one.

The traveler's check also contributed to the company's completely unintentional evolution into a travel services company. In fact, president J. C. Fargo issued a clear, unambiguous dictum that American Express was *not* going into the travel/tourism business: "We want it distinctly kept in mind that at all times and in all places and by all the company's forces, that *this company is not and does not intend going into the touring [travel services] business* [emphasis ours]."¹²

In spite of Fargo's dictum, that's exactly what AmEx did. The company had developed a pattern of solving customer problems and quickly exploiting opportunities—an impulse guided by its core ideology of heroic customer service—that could not be easily suppressed, even by the CEO. Soon after the company opened its first European traveler's check office in Paris in 1895, an entrepreneurial employee named William Dalliba began expanding the company's activities in response to the needs of American travelers that always crammed the Paris office clamoring for check cashing, mail services, travel schedules, tickets, advice, and so on. Dalliba had to be careful and low-profile, of course, so as not to raise the ire of J. C. Fargo. So he moved incrementally, experimenting with ticket windows to sell overtures on steamships. Using his successful experiment as a foot in the door, Dalliba convinced the company to open a "Travel Department" and began selling train tickets, packaged tours, and a range of travel services.¹³ By 1912, AmEx had "firmly established itself as a great travel organization, *though even yet it did not admit the fact* [emphasis ours]."¹⁴ By the early 1920s, Dalliba's experiments had turned travel-related services into the second most important strategic pillar of the company, behind financial services.

Thus, through a series of incremental steps—most of them opportunistic and certainly not part of any grand plan—American Express had evolved into something entirely different from its original founding concept as a freight express business.

CORPORATIONS AS EVOLVING SPECIES

What should we make of these examples from J&J, Marriott, and American Express? We might be tempted to just ignore them as weird aberrations, but they weren't the only such examples we found. Bill Hewlett told us that HP "never planned more than two or three years out" during the pivotal 1960s.¹⁵ Nor did the company have any grand plan in mind when making its watershed strategic move into the computer business. Quite the opposite. In 1965, HP designed its first small computer simply to add power to its line of instruments products.¹⁶ Explained former chief executive John Young:

It was basically an under the bench thing. We didn't even call it a computer. We called it an "instrument controller." Although we knew computers would be important in the future, we wanted to maintain our reputation as an instrument company and did not want to be known as a computer company.¹⁷

Similarly, Motorola initially entered the field of advanced electronics (transistors, semiconductors, integrated circuits) simply as a natural outgrowth of its small Phoenix laboratory set up in 1949 to develop a few electronic components for use in the company's televisions and radios.¹⁸ Only later, in 1955, did Motorola make a conscious strategic choice to move into the electronics business—and that simply because the company could not afford to build an advanced plant unless it sold some of the output to outside customers.

We could go on with examples from Citicorp, Philip Morris, GE, Sony, and others. Don't get us wrong. We're not saying that these companies never had plans. But we were surprised to find so many examples of key moves by the visionary companies that came about by some process other than planning. Nor do these examples merely represent random luck. No, we found something else at work.

These provocative examples led us to a second type of progress (the first was BHAGs) stimulated by the visionary companies to a greater degree than the comparison companies: *evolutionary progress*. The word "evolutionary" describes this type of progress because it closely resembles how organic species evolve and adapt to their natural environments. Evolutionary progress differs from BHAG progress in two key ways. First, whereas BHAG progress involves clear and unambiguous goals ("We're going to climb that mountain"), evolutionary progress involves ambiguity ("By trying lots of different approaches, we're bound to stumble onto something that works; we just don't know ahead of time what it will be"). Second, whereas BHAG progress involves bold discontinuous leaps, evolutionary progress usually begins with small *incremental* steps or mutations, often in the form of quickly seizing unexpected opportunities that eventually grow into major—and often unanticipated—strategic shifts.

Why lead into the topic of evolutionary progress with examples of unplanned strategies? Because evolutionary progress is *unplanned* progress. Indeed, if we looked at species in the natural world through the lens of strategic planning, we might easily conclude that they were the result of well-executed plans: They're so well adapted, they *must* have been created exactly that way as part of a brilliant overall strategic plan. How else could we explain them? But, from the perspective of modern biology, such a conclusion would be dead wrong. After the Darwinian revolution, biologists

came to understand that species were not directly created in a specific pre-planned form; they *evolved*. Not only that, they evolved by a process with remarkable similarity to how some of our visionary companies became well adapted to their environments.

Darwin's Theory of Evolution Applied to Visionary Companies

The central concept of evolutionary theory—and Charles Darwin's great insight—is that species evolve by a process of undirected *variation* ("random genetic mutation") and natural *selection*. Through genetic variation, a species attains "good chances" that some of its members will be well suited to the demands of the environment. As the environment shifts, the genetic variations that best fit the environment tend to get "selected" (that is, the well-suited variations tend to survive and the poorly suited tend to perish—that's what Darwin meant by "survival of the fittest"). The selected (surviving) variations then have greater representation in the gene pool and the species will evolve in that direction. In Darwin's own words: "Multiply, vary, let the strongest live, and the weakest die."¹⁸

Now consider a company—say, American Express—as analogous to a species. By the early twentieth century, American Express found its traditional freight business under siege. Government regulators eroded the company's monopolistic rate structure and in 1913 the U.S. Post Office began a competing parcel-post system. Profits fell 50 percent.¹⁹ Then in 1918 the U.S. government nationalized all freight express businesses, creating a cataclysmic industry change.²⁰ Most freight companies disappeared as the government snatched away their core business. But for American Express, its experiments in financial and travel services (described earlier) proved to be favorable—albeit unplanned—*variations* that were better suited to the changed environment than its traditional freight business. These variations were then *selected* as the path to evolve beyond its traditional—and now obsolete—line of business and on which to base its future prosperity.²¹

WE like to describe the evolutionary process as "branching and pruning." The idea is simple: If you add enough branches to a tree (variation) and intelligently prune the deadwood (selection), then you'll likely evolve into a collection of healthy branches well positioned to prosper in an ever-changing environment.

* For a more detailed discussion of evolutionary theory, we highly recommend reading books by Stephen J. Gould, especially *Hen's Teeth and Horse's Toes* and *The Panda's Thumb*, and books by Richard Dawkins, especially *The Blind Watchmaker*.

To this day, Johnson & Johnson consciously encourages branching and pruning. It tries lots of new things, keeps those that work, and quickly discards those that don't. It stimulates variation by fostering a highly decentralized environment that encourages individual initiative and allows people to experiment with new ideas. At the same time, J&J imposes rigorous selection criteria. Only those experiments that prove to be profitable and that fit with J&J's core ideology get to remain in the company's portfolio of businesses.

With his oft-repeated statement "Failure is our most important product," R. W. Johnson Jr., understood that companies must accept failed experiments as part of evolutionary progress. And, in fact, J&J has had a number of prominent failures to "prune away" in its history, including a foray into kola stimulants (made from sherry and kola nut extract) and colored casts for children that "met an early demise when the pure food dyes turned bed linens into a symphony of colors and hospital laundries into bedlam."²² It has also had more recent failed ventures in heart valves, kidney dialysis equipment, and ibuprofen pain relievers.²³ Failures at J&J have been an essential price to pay in creating a healthy branching tree within the context of its core ideology. In spite of these setbacks, the company has never posted a loss in its 107-year history. J&J's financial success makes the company look to outsiders like it was all mapped out by a strategic genius. In reality, J&J's history is filled with favorable accidents, trial and error, and periodic failures. Summed up chief executive Ralph Larsen in 1992: "Growth is a gambler's game."²⁴

Similarly, Wal-Mart's phenomenal success in the 1970s and 1980s can better be understood by an evolutionary perspective than a creationist perspective. In fact, the folks at Wal-Mart have always been somewhat amused by the primary explanation of Wal-Mart's success frequently taught in microeconomics textbooks and MBA strategic planning courses. As Jim Walton summed up:

We all snickered at some writers who viewed Dad [Sam Walton] as a grand strategist who intuitively developed complex plans and implemented them with precision. Dad thrived on change, and no decision was ever sacred.²⁵

Indeed, the tools taught in most corporate strategy courses utterly fail to capture how the company's strategic competitive advantage came to be—how Wal-Mart attained its "brilliant" system in the first place. The Wal-Mart system came into being not primarily by a strategic plan formulated by economic genius, but largely by an evolutionary process of variation and selection: "Multiply, vary, let the strongest [experiments] win, and the weakest die."²⁶ That's exactly what Wal-Mart made a habit of

doing from the time Sam Walton opened his first store in 1945. Wal-Mart *looks* like it had brilliant foresight, just as it *looks* like a species was pre-planned and created. As a Wal-Mart executive described: "We live by the motto, 'Do it. Fix it. Try it.' If you try something and it works, you keep it. If it doesn't work, you fix it or try something else."⁷⁷

Wal-Mart's famous people greeters, for example, did not come from any grand plan or strategy. A store manager in Crowley, Louisiana, was having trouble with shoplifting, so he tried an experiment: He put a friendly older gentleman by the front door to "greet" people on their way in and out. The "people greeter" made honest people feel welcome: "Hi! How are ya? Glad you're here. If there's anything I can tell you about our store, just let me know." At the same time, the greeter sent a message to potential shoplifters that someone would see them if they tried to walk out with stolen merchandise. No one at Wal-Mart—including Sam Walton—had conceived of anything like the greeter concept before the Crowley manager put it in place. Nonetheless, this odd experiment proved effective and eventually became standard practice across the company and a competitive advantage for Wal-Mart.

Using Wal-Mart as an example, we can rephrase Darwin's quote at the beginning of the chapter so it might read like this:

It might be far more satisfactory to look at well-adapted visionary companies not primarily as the result of brilliant foresight and strategic planning, but largely as consequences of a basic process—namely, try a lot of experiments, seize opportunities, keep those that work well (consistent with the core ideology), and fix or discard those that don't.

Of course, we should be careful about making a wholesale analogy from biology to business. We do not think all visionary company adaptation and progress comes from an undirected evolutionary process. Certainly it would be inaccurate to view corporations as *exactly* like biological species.

For one thing, companies do in fact have the ability to set goals and plan. Species do not. And certainly our visionary companies do set goals and make plans—even Wal-Mart, which has simultaneously pursued both BHAGs and evolutionary progress throughout its history. It uses BHAGs to define a mountain to climb, and uses evolution to invent a way to the top. Jack Welch at General Electric embraced this paradoxical mixture of goals and evolution in a management idea labeled "planful opportunism," as described by Tichy and Sherman in *Control Your Own Destiny or Someone Else Will*:

Instead of directing a business according to a detailed . . . strategic plan, Welch believed in setting only a few clear, overarching goals. Then, on an ad hoc basis, his people were free to seize any opportunities they saw to further those goals. . . . [Planful opportunism] crystallized in his mind . . . after he read Johannes von Moltke, a nineteenth century Prussian general influenced by the renowned military theorist Karl von Clausewitz [who] argued that detailed plans usually fail, because circumstances inevitably change.²⁸

For another thing, the process of variation and selection in human organizations differs from a purely Darwinian process in the natural world. Darwinian selection with species is *natural* selection—an entirely *unconscious* process whereby the variations that best fit with the environment survive and the weakest variations perish. In other words, species in the natural world do not consciously choose what variations to select; the environment selects. Human organizations, on the other hand, can make *conscious* selections. Furthermore, evolution in the natural world has no goal or ideology other than sheer survival of the species. Visionary companies, on the other hand, stimulate evolutionary progress toward desired ends within the context of a core ideology—a process we call *purposeful evolution*.

Of course, all companies evolve to some degree. Evolution "happens" whether we purposefully stimulate it or not. The real world is full of chance events that affect the trajectory of life. It happens to individual people. It happens to organizations. It happens to entire economic systems. But—and this is the crucial point—visionary companies more aggressively *harness* the power of evolution. This brings us to the key point of the chapter:

If well understood and consciously harnessed, evolutionary processes can be a powerful way to stimulate progress. And that's exactly what the visionary companies have done to a greater degree than the comparison companies.

Of course, purposeful evolution is not the only type of progress stimulated by visionary companies, nor do all of them use it extensively. Some, such as Boeing, IBM, and Disney, have relied more heavily on BHAG-stimulated progress. (After all, it would be difficult to build an incremen-

tal Boeing 747!) Others, such as Merck, Nordstrom, and Philip Morris, have relied more on continuous self-improvement, as shown in a later chapter. Nonetheless, wherever they fall along the continuum, the visionary companies have harnessed the power of evolution to a greater degree than the comparison companies in fifteen out of eighteen comparative cases. (See Table A.7 in Appendix 3.)

3M: "THE MUTATION MACHINE FROM MINNESOTA" AND HOW IT BLEW AWAY NORTON

During our interview with Bill Hewlett of HP, we asked him if there is any company that he greatly admired and saw as a role model. He responded without hesitation: "3M! No doubt about it. You never know what they're going to come up with next. The beauty of it is that *they* probably don't know what they're going to come up with next, either. But even though you can never predict what exactly the company will do, you know that it will continue to be successful." We agree with Hewlett. Indeed, if we had to bet our lives on the continued success and adaptability of any single company in our study over the next fifty to one hundred years, we would place that bet on 3M.

The great irony, of course, is that 3M began life as a failure—a big mistake. Dealt a nearly lethal blow when its initial concept to mine corundum failed (see Appendix 2), the tiny company tried for months to come up with something—*anything*—that might prove viable. According to Virginia Tuck in her book, *Brand of the Tartan—The 3M Story*:

The board of directors met every week during the cold November of 1904, seeking a solution. The founders were determined not to give up [on the company]. Fortunately their employees felt the same way. Everyone offered some personal sacrifice [including some working for free] to keep the company going.²⁹

Finally, the board agreed to the suggestion by one of its investors that 3M should shift away from mining and become a manufacturer of sandpaper and grinding wheels. (What else could it do with all that unusable, low-grade grit coming out of its failed mine?) So, out of desperation more than careful planning, 3M gave up mining and made a strategic shift to abrasives.

* 3M's official name is Minnesota Mining and Manufacturing Company.

Enter William McKnight

From 1907 to 1914, the company struggled with quality problems, low margins, excess inventory, and cash flow crises. But under the quiet and deliberate urgings of a bookish young accountant-turned-sales-manager named William McKnight, the company began tinkering and experimenting with product improvements that kept the company viable—just barely.

In 1914, the company promoted McKnight, still in his twenties, to general manager. An instinctive clock builder, McKnight quickly set aside a five-by-eleven-foot corner storage room, invested \$500 for a sink and glue bath for experiments and testing, and thereby created 3M's first "laboratory."³⁰ After months of experimentation with an artificial mineral, 3M introduced a new and highly successful cloth abrasive, called "Three-M-It"³¹—a product that propelled 3M to its first-ever dividend and was still listed in 3M's product directory seventy-five years after its invention.³²

Although shy and unobtrusive on the outside, McKnight carried within an insatiable curiosity and unrelenting drive for progress, frequently working seven days a week to further the cause of the fledgling 3M Corporation and always looking for new opportunities that the company might pursue.³³ For example, in January 1920, McKnight opened an unusual letter that read:

Please send samples of every mineral grit size you use in manufacturing sandpaper [to] Francis G. Okie, Manufacturer of printing inks, bronze powders, and gold ink liquids, Philadelphia.³⁴

3M didn't sell raw materials, so there was no business to transact. But McKnight—curiosity piqued and on the prowl for interesting new ideas that might move the company forward—asked a simple question: "Why does Mr. Okie want these samples?"³⁵

3M thereby stumbled into one of the most important products in its history, for Mr. Okie had invented a revolutionary waterproof sandpaper that would prove immensely useful to automobile manufacturers and repair shops around the world. (As an aside, Okie had requested samples from numerous mineral and sandpaper companies, but none—except 3M—had bothered to ask why he wanted the samples.) 3M quickly acquired rights to the technology and began selling "Wetodry" brand sandpaper.

But that's not all 3M acquired. Indeed, Wetodry wasn't even the most valuable part of the transaction. McKnight—the consummate clock builder who always focused on building the organization—didn't just sign an agreement with Okie and thank him. He hired him! Okie closed his

is destructively critical when mistakes are made kills initiative and it's essential that we have many people with initiative if we are to continue to grow.¹⁹

In fact, 3M's first attempt at self-mutation beyond sandpaper—a foray into automobile wax and polish introduced in 1924—proved to be a costly mistake, and the company eventually discontinued the line.⁴⁰

But its second mutation proved wildly successful. Working in the give-it-a-try atmosphere created by McKnight, a young 3M employee named Dick Drew visited a customer site—an auto paint shop—and overheard a violent explosion of particularly vivid profanity. Two-tone auto paint jobs had become popular, but the improvised glues and adhesive tapes separating the two colors failed to mask properly, leaving behind ugly blotches and uneven lines.

"Can't anyone give us *something* that will work?" yowled the paint man, storming across the paint shop.

"We can!" responded the 3M visitor. "I'll bet we can adapt something at our lab to make foolproof masking tape."⁴¹

Drew discovered, however, that 3M had no such readily adaptable product in the lab. So, like any true 3Mer, he invented one: 3M masking tape. In response to an opportunity disguised as a problem—a process to be repeated thousands of times—3M had finally made its first incremental shift away from sandpaper. Five years later, in response to companies that had contacted 3M looking for a waterproof packaging tape, Drew built on the masking tape technology and invented a product destined to become a household item worldwide: Scotch cellophane tape.

Scotch tape wasn't planned. No one at 3M had any idea in 1920 that 3M would enter the tape business, and certainly no one expected that it would become the most important product line in the company by the mid-1930s. Scotch was a natural outgrowth of the organizational climate McKnight created, not the result of a brilliant strategic plan.

Even more important than Scotch tape itself, however, was the fact that 3M institutionalized the evolutionary process that led to Scotch tape. Richard P. Carlton, director of research and later president of 3M, codified the strategy of "variation and selection" in 3M's technical guidance manual as early as 1925:

[We] must possess a two-fisted generating *and* testing [process] for ideas. . . . Every idea evolved should have a chance to prove its worth, and this is true for two reasons: 1) if it is good, we want it; 2) if it is not good, we will have purchased our insurance and peace of mind when we have proved it impractical.⁴²

shop in Philadelphia, moved to St. Paul, and became a key player in developing new inventions at 3M until his retirement nineteen years later.¹⁶

"BRANCHING AND PRUNING" AT 3M

3M's near-fatal early days had made a big impression on McKnight. He therefore wanted 3M to have enough internal variation to protect itself:

Our eggs were all in one basket at the beginning [the failed mine]. . . . By diversifying products . . . it was unlikely a trade war would hit them all at once [and] at least part of our business would always be profitable.¹⁷

But, as his hiring of Okie illustrates, McKnight did not want the evolution and expansion of the company to depend only on himself. He wanted to create an *organization* that would continually self-mutate from within, impelled forward by employees exercising their individual initiative. McKnight's approach was captured in phrases that would be chanted often by 3Mers throughout its history:¹⁸

"Listen to anyone with an original idea, no matter how absurd it might sound at first."

"Encourage; don't nitpick. Let people run with an idea."

"Hire good people, and leave them alone."

"If you put fences around people, you get sheep. Give people the room they need."

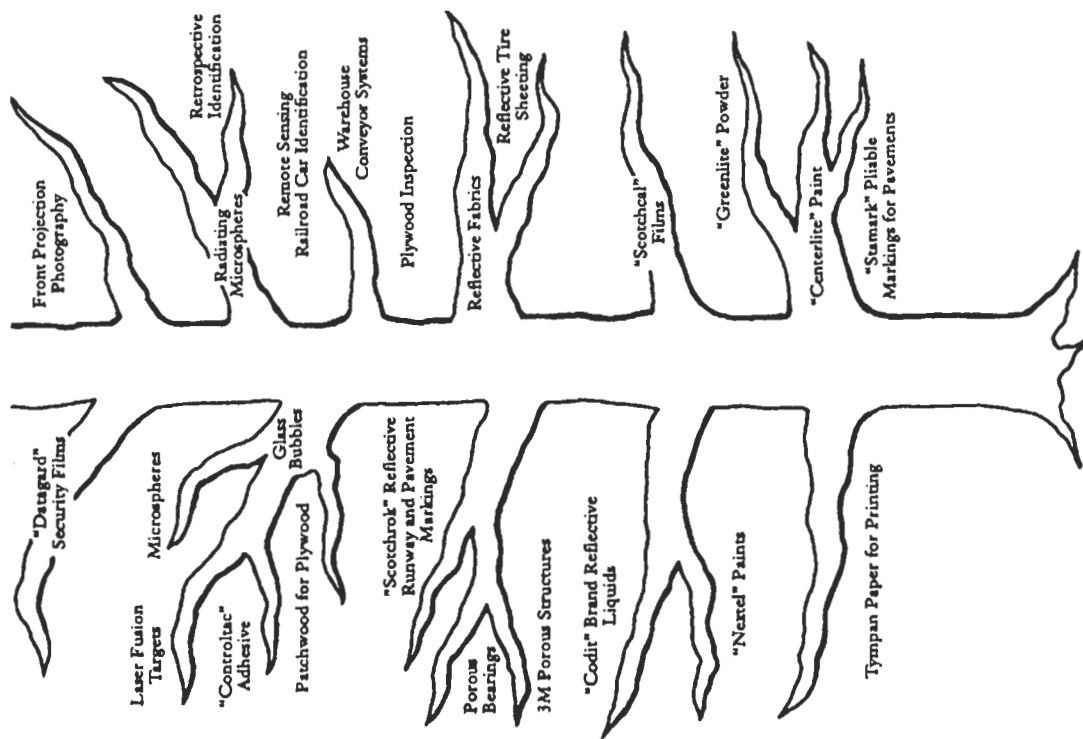
"Encourage experimental doodling."

"Give it a try—and quick!"

McKnight intuitively understood that encouraging individual initiative would produce the raw material of evolutionary progress—undirected variation. He also understood that not all such variation would prove favorable:

Mistakes will be made [by giving people the freedom and encouragement to act autonomously], but . . . the mistakes he or she makes are not as serious in the long run as the mistakes management will make if it is dictatorial and undertakes to tell those under its authority exactly how they must do their job. Management that

A Branching Evolutionary Tree at 3M



Product Evolution from Scotchlite Reflective Sheeting Technology as of the mid-1970s, as depicted by 3M corporation in its official history.⁴⁶

Carlton also added two other key criteria for evaluating and selecting ideas—criteria based on 3M's core ideology. First, for an idea to be selected, it had to be basically *new*; 3M only wanted to select innovative ideas. Second, it had to meet a demonstrable human need—to solve a real problem. Innovation that didn't "turn into products and processes that someone somewhere will find *useful*" would be of no interest to 3M.⁴¹

Interestingly, however, 3M did not select innovations based strictly on market size. With mottoes like "Make a little, sell a little" and "Take small steps,"⁴² 3M understood that big things often evolve from little things; but since you can't tell ahead of time which little things will turn into big things, you have to try *lots* of little things, keep the ones that work and discard the ones that don't. Operating "on a simple principle that no market, no end product is so small as to be scorned,"⁴³ 3M adopted a policy of allowing people to sprout tiny "twigs" in response to problems and ideas. Most twigs wouldn't grow into anything. But anytime a twig showed promise, 3M would allow it to grow into a full branch—or perhaps even a full-fledged tree. This branching approach became so conscious at 3M that it sometimes explicitly depicted its product families in "branching tree" form (Figure 7.A presents an example).

The beauty of the 3M story is that the company transcended McKnight, Okie, Drew, Carlton, and all the other original individuals from the early days of 3M. They created a *company*—a mutation machine—that would continue to evolve independent of whoever happened to be chief executive. Although 3M's leaders could never predict *where* the company would go in the future, they had little doubt that it would go far. It became a ticking, whirring, clicking, clattering clock with a myriad of tangible mechanisms well aligned to stimulate continual evolutionary progress. For example:

Mechanisms to Stimulate Progress at 3M

"15 percent rule"—a long-standing tradition that encourages technical people to spend up to 15 percent of their time on projects of their own choosing and initiative.⁴⁷

"25 percent rule"—each division is expected to generate 25 percent of annual sales from new products and services introduced in the previous five years. (Upped to 30 percent and shortened to the previous four years, beginning in 1993.)⁴⁸

"Golden Step" award, granted to those responsible for successful new business ventures originated within 3M.⁴⁹

"Genesis Grants"—internal venture capital fund that distributes parcels of up to \$50,000 for researchers to develop prototypes and market tests.⁵¹

Technology sharing awards, granted to those who develop a new technology and successfully share it with other divisions.⁵²

To stimulate unplanned experimentation and variation that might turn into successful, albeit unexpected, innovations.

To stimulate continuous new product development (in 1988, for example, 32 percent of 3M's \$10.6 billion came from new products introduced in the prior five years).⁴⁹

To stimulate internal entrepreneurship and risk taking.

To support internal entrepreneurship and testing of new ideas.

To stimulate internal dissemination of technology and ideas.

Mechanisms to Stimulate Progress at 3M

"Carlton Society"—a technical honor society whose members are chosen in recognition for their outstanding and original technical contributions within 3M.⁵³

"Own business" opportunities—3Mers who successfully champion a new product then get the opportunity to run it as his or her own project, department, or division (depending on sales levels of product).⁵⁴

"Dual ladder" career track that allows technical and professional people to move up without sacrificing their research or professional interests.⁵⁵

New product forums, where all divisions share their latest products.⁴⁶

Technical forums, where 3M people present technical papers and exchange new ideas and findings with each other.⁵⁷

To stimulate the development of new technologies and innovation.

To stimulate internal entrepreneurship.

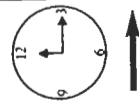
To stimulate innovation by allowing top professional and technical people to "advance" without having to switch to a managerial track.

To stimulate new ideas across divisions.

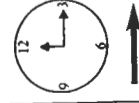
To stimulate cross-fertilization of ideas, technology, and innovation.

Mechanisms to Stimulate Progress at 3M (continued)

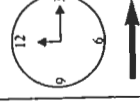
"Problem-solving missions"—small hit teams sent out to customer sites in response to specific, idiosyncratic customer problems.⁵⁸



"High Impact Programs"—each division selects one to three priority products to get to market within a short, specified time frame.⁵⁹



Small, autonomous divisions and units—42 product divisions in 1990, each with average annual sales of about \$200 million; plants—median size 115 people—are spread across forty states, mostly in small towns.⁶⁰



Early use of profit sharing (introduced to key employees in 1916, expanded to almost all employees in 1937).⁶¹



To stimulate innovation via customer problems that are the seeds of new opportunities, perpetually replicating the process by which 3M stumbled onto masking tape in the 1920s.

To speed product development and market introduction cycles, which thereby increases evolutionary "variation and selection" cycles.

To stimulate individual initiative by promoting a "small company within a big company" feel.

To stimulate a sense of individual investment in the overall financial success of the company, and thereby stimulate individual effort and initiative.

Propelled by these mechanisms, 3M had branched into over sixty thousand products and over forty separate product divisions by 1990. These spanned such wide-ranging categories as roofing granules, reflective highway signs, video recording tape, overhead projection systems, computer storage diskettes, bioelectronic ears, and 3M Post-it notes. Indeed, the ubiquitous Post-it notes present just one more example of

going by stumbling, but you can only stumble if you're moving. Post-it coinventor Art Fry described:

One day in 1974, while I was singing in church choir, I had one of those creative moments. To make it easier to find the songs we were going to sing at each Sunday's service, I used to mark the places with little slips of paper [but they would flutter out at just the wrong time, leaving me frantic]. I thought, "Gee, if I had a little adhesive on these bookmarks, that would be just the ticket," so I decided to check into . . . Spence Silver's adhesive.⁶²

Using the 15 percent rule and following the principle of "experimental doodling," Spence Silver had invented the aberrant adhesive by just experimenting in the lab—mixing certain chemicals together "just to see what would happen." He explained:

The key to the Post-itTM adhesive was doing the experiment. If I had factored it out beforehand, and thought about it, I wouldn't have done the experiment. If I had really seriously cracked the books and gone through the literature, I would have stopped. The literature was full of examples that said you can't do this.⁶³

Reflecting on this somewhat chaotic process, 3M executive Geoffrey Nicholson pointed out that "a lot of the things [that led to the Post-it] were accidental." But had Art Fry not been in an environment where people were doodling around with weird adhesives on their 15 percent time, he would not have come up with the product. Furthermore, had Fry and Silver been in an environment that discouraged persistence—had 3M forbidden them from continuing to work on their crazy idea when initial market surveys indicated that the product would fail—3M Post-it notes wouldn't exist as a commercial product.⁶⁴ And that is precisely the point—indeed, *the* key point from 3M:

ALTHOUGH the invention of the Post-it note might have been somewhat accidental, the creation of the 3M environment that allowed it was anything but an accident.

The Stark Contrast at Norton

Founded on a good concept, Norton—unlike 3M—made money from the start and, by its fifteenth birthday, had multiplied its investor capital fifteen-fold (see Appendix 2). While 3M was fighting simply to survive during the period 1902 to 1914, Norton became the industry leader in bonded abrasives and produced superb financial returns year after year.⁶⁵ In 1914, Norton was fully ten times the size and significantly more profitable than the struggling 3M company.

Yet, despite its vastly superior early life, Norton failed to keep pace with 3M's "perpetual motion machine."⁶⁶ 3M gradually overtook and eventually far surpassed Norton in both size and profitability:

Size Comparison	3M	Norton	Ratio: 3M/Norton
1914 Revenues (\$000):	264	2,734	.10
1929 Revenues (\$000):	5,500	20,300	.27
1943 Revenues (\$000):	47,200	131,300	.36
1956 Revenues (\$000):	330,807	165,200	2.00
1966 Revenues (\$000):	1,152,630	310,472	3.71
1976 Revenues (\$000):	3,514,259	749,655	4.69
1986 Revenues (\$000):	8,602,000	1,107,100	7.77
1990 Revenues (\$000):	13,021,000	Norton Acquired	Norton Acquired
Profitability Comparison			
Return on Assets,			
1962-86:	34.36%	17.72%	1.94
Return on Equity,			
1962-86:	23.22%	11.25%	2.06
Return on Sales,			
1962-86:	20.27%	9.42%	2.15

How did this happen? How did Norton lose its seemingly insurmountable lead over the failed mine from Minnesota?

Norton first laid the groundwork for its decline relative to 3M during the period 1914 to 1945. While 3M installed management practices that encouraged individual initiative and experimentation, Norton created no explicit practices or mechanisms whatsoever to stimulate experimentation and unplanned evolution. While 3M had a relentless drive for progress and impulse for activity ("Give it a try, and quick!"), Norton became a highly centralized and bureaucratic firm characterized by "routinization and stag-

nation."⁶⁷ While 3M seized opportunities that led to waterproof sandpaper and Scotch tape, Norton had an explicit policy *not* to encourage pursuit of new opportunities outside of its traditional product lines.⁶⁸ In 1928, 85 percent of Norton sales and 90 percent of profits came from Charles Norton's grinding wheel line, first introduced *a quarter of a century* earlier.⁶⁹ As a Norton research scientist described:

Although we would play with the idea of doing research on new, radically different products, almost all work . . . involved . . . making better grinding wheels. . . . *You could work on anything you wanted as long as it was round and had a hole in it.* [emphasis ours]⁷⁰

During the late 1940s and 1950s, 3M pulled ahead, never to look back. While 3M decentralized and installed mechanisms to stimulate continued evolutionary progress, Norton remained centralized and concentrated primarily on cost cutting and efficiency.⁷¹ While 3M branched into seven separate product divisions by 1948, with less than 30 percent of revenues coming from abrasives, Norton still derived nearly 100 percent of its revenues from its traditional abrasives line.⁷² While 3M's Scotch product family generated high cash flow used to fund the development of exciting new technologies like Scotchlite reflective sheeting and Thermo-fax copying technology, Norton's abrasives products faced a mature market with slowing growth, overcapacity, price cutting, and declining margins.

In the late 1950s, Norton made a few feeble attempts to branch away from the maturing abrasives industry, but most of these were thwarted by lack of resources and institutional encouragement. Interestingly, Norton tried at one point to follow 3M's lead into adhesives, introducing a cellophane tape in 1957 (twenty-seven years after 3M!). But 3M's Scotch brand proved too entrenched and, according to a Norton sales manager, "We never got so bloody in our entire lives [as competing against Scotch]."⁷³

By 1962, 3M had attained over three times the revenues and nearly twice the profit margins of Norton. Furthermore, whereas 3M had a wide array of attractive business units—stable cash generators like adhesives, high growth businesses like Scotchguard fabric protector and magnetic recording tapes, and emerging markets like microfilm and fax—Norton still derived over 75 percent of its sales from its old-line abrasives business.⁷⁴ Even more important, 3M's mutation machine was clicking into full gear, ensuring that it would continue to stumble into thousands of new opportunities long into the future. Norton, in contrast, had ground to a virtual standstill (2 percent sales growth, 0 percent profit growth) with no significant drive for progress or tangible mechanisms to stimulate progress. Wrote Charles W. Cheape in his well-researched historical account of Norton:

By the 1960s, management was largely a caretaker operation to maintain existing modest profit levels and the possibility of [selling the company].⁷⁵

Finally, in response to declining stock multiples relative to 3M and Carborundum, Norton decided to make a concerted effort to diversify and progress—like 3M.⁷⁶ Unlike 3M, however, Norton elected to attain this array primarily by corporate strategic planning and diversification by acquisition—instead of by evolution. In fact, Norton became one of the first major clients and a dedicated disciple of the Boston Consulting Group (BCG) and its “portfolio management” techniques.* Instead of installing mechanisms to stimulate internal progress, Norton sought simply to *buy* progress. As *Forbes* magazine described, “Norton runs its operations the way most investors run their portfolios.”⁷⁷

Indeed, one of the great ironies in comparing 3M and Norton comes in the fact that 3M has consistently had a “portfolio” of business units that would be the envy of any strategic planning consulting firm. 3M’s portfolio *looks* beautifully planned (just as species look perfectly created), but it actually came about largely by an undirected evolutionary process of variation and selection. 3M presents yet another classic example of how a creationist strategic planning perspective can so easily confuse the “why” and “how.”

If we mapped 3M’s portfolio of business units on a strategic planning matrix, we could easily see *why* the company is so successful (“Look at all those cash cows and strategic stars!”), but the matrix would utterly fail to capture *how* this portfolio came to be in the first place.

Throughout the 1970s and 1980s, 3M continued to evolve into new—and often unexpected—arenas by encouraging individual initiative. Norton, in contrast, relied primarily on studies and planning models handed down from its consultants.⁷⁸ While 3M continued to stimulate progress by allowing people like Spence Silver to create new markets in part by “accidents, not

calculations,”⁷⁹ Norton’s president proclaimed that “planning must become a way of life.”⁸⁰ While 3M encouraged “scientific playfulness,” Norton’s management described its strategic method as “It’s all derived from military planning.”⁸¹ While 3M diversified primarily by selecting the best incremental opportunities that emerged from its fruitful and self-stimulated research efforts, Norton primarily emphasized wholesale acquisitions, “because [internal] technology and research resources offered limited opportunity.”⁸²

Finally, in 1990, 3M sailed on to top \$13 billion in sales and hundreds of innovative new product introductions. Norton, in contrast, found itself the target of an unfriendly takeover bid and ceased to exist as an independent entity.

LESSONS FOR CEOS, MANAGERS, AND ENTREPRENEURS

Using 3M as a blueprint for evolutionary progress at its best, here are five basic lessons for stimulating evolutionary progress in a visionary company.

1. “Give it a try—and *quick!*” for 3M, unlike Norton, the *modus operandi* became: When in doubt, vary, change, solve the problem, seize the opportunity, experiment, try something new (consistent, of course, with the core ideology)—even if you can’t predict precisely how things will turn out. Do something. If one thing fails, try another. Fix. Try. Do. Adjust. Move. Act. No matter what, *don’t sit still*. Vigorous action—especially in response to unexpected opportunities or specific customer problems—creates variation. Had McKnight not asked why Okie sent his cryptic letter requesting grit samples, or had Dick Drew not impulsively promised a solution for two-tone paint jobs, or had Spence Silver not done the experiment that textbooks said could not work, or had Art Fry not tried to solve his church choirbook problem—and so on for a thousand such “ifs”—then 3M wouldn’t be a visionary company.
2. “Accept that *mistakes will be made*.” Since you can’t tell ahead of time which variations will prove to be favorable, you have to accept mistakes and failures as an integral part of the evolutionary process. Had 3M nailed Okie and Drew to the wall (or fired them) for the failed car wax business, then 3M probably wouldn’t have invented Scotch tape. Remember Darwin’s key phrase: “Multiply, vary, let the strongest live, and the weakest die.” In order to have healthy evolution, you have to try enough experiments (multiply) of different types (vary), keep the ones that work (let the strongest live), and discard the ones that don’t (let the weakest die). In other words, you

* This involved categorizing of businesses units into a matrix of “cash cows,” “stars,” “question marks,” and “dogs,” based on market share and market growth. Using this categorization, a company would make investments, acquisitions, and divestitures.

cannot have a vibrant self-mutating system—you cannot have a 3M—without lots of failed experiments. As former 3M CEO Lewis Lehr put it: “The secret, if there is one, is to dump the flops as soon as they are recognized. . . . But even the flops are valuable in certain ways. . . . You can learn from success, but you have to work at it; it’s a lot easier to learn from a failure.”⁸³ Keep in mind J&J’s paradoxical perspective, described earlier in the chapter, that failures and mistakes have been an essential price to pay in creating a healthy branching tree that has not once posted a loss in 107 years. At the same time, keep in mind a lesson from the chapter on cult-like cultures: A visionary company tolerates mistakes, but not “sins,” that is, breaches of the core ideology.

3. “Take small steps.” Of course, it’s easier to tolerate failed experiments when they are just that—*experiments*, not massive corporate failures. Keep in mind that small incremental steps can form the basis of significant strategic shifts. McKnight’s simple answer to Okie led to waterproof sandpaper, opening a large market in the auto industry, leading to Dick Drew’s masking tape and then to Scotch cellophane tape, which spawned recording tape, and so on. If you want to create a major strategic shift in a company, you might try becoming an “incremental revolutionary” and harnessing the power of small, visible successes to influence overall corporate strategy. Indeed, if you really want to do something revolutionary, it might be best to ask simply for permission to “do an experiment.” Recall American Express’s incremental steps in financial services that eventually became the primary strategic pillar of the company, and how William Dalliba used small experiments to incrementally revolutionize the company into travel services. Keep in mind the image of “twigs and branches.” Or consider the image of “seeds and fruit” used by Masaru Ibuka at Sony to convey the concept of small, idiosyncratic problems as the starting point of great big opportunities.^{84*}

4. “Give people the room they need.” 3M provided greater operational autonomy and maintained a more decentralized structure than Norton—a key step that enabled unplanned variation. When you give people a lot of room to act, you can’t predict precisely what they’ll do—and this is good. 3M had no idea what Silver, Fry, and Nicholson would do with their 15 percent “discretionary time.” In fact, the visionary companies decentralized more and provided greater operational autonomy than the comparison companies in twelve out of eighteen

* Richard Dawkins does a beautiful job of describing incrementalism as a potent evolutionary force in Chapter 3 of *The Blind Watchmaker* (New York: Norton, 1986).

cases. (Five were indistinguishable.) To this lesson, we’d add a corollary: Allow people to be persistent. Although the Post-it clan had trouble convincing other 3Mers that their weird sticky little notes had merit, no one ever told them to stop working on it.

5. *Mechanisms—build that ticking clock!* The beauty of the 3M story is that McKnight, Carlton, and others translated the previous four points into tangible mechanisms working in alignment to stimulate evolutionary progress—a step Norton never took. Look back at the list of mechanisms at 3M. Notice how concrete they are. Notice how they send a consistent set of reinforcing signals. Notice how they have teeth. If you’re a division manager, you damned well better meet the 30 percent new product goal. If you want to become a technical hero at 3M, you’d better share your technology around the company. If you want to receive a Golden Foot Award and become an entrepreneurial hero, you’ve got to create a successful new venture with actual products, satisfied customers, and profitable sales. Good intentions alone simply won’t cut it. 3M doesn’t just throw a bunch of smart people in a pot and hope that something will happen. 3M lights a hot fire under the pot and stirs vigorously!

We find that managers often underestimate the importance of this fifth lesson and fail to translate their intentions into tangible mechanisms. They erroneously think that if they just set the right “leadership tone,” people will experiment and try new things. No! It takes more than that. It requires putting in place items that will continually stimulate and reinforce evolutionary behavior. Tick, bong, click, whirr!

What Not to Do

We also found a number of cases where the comparison companies actively suppressed evolutionary progress at critical stages in their history—lessons of what *not* to do.

Chase Manhattan. Ruled by an obsessively controlling David Rockefeller during the 1960s and 1970s, Chase Manhattan (known as “David’s Bank”) became a fear-filled environment where managers spent most of their time in meetings—not on making decisions and taking action. Chase managers lived with the mentality, “Whew! One more day gone and I’m not in trouble.” Even in the late 1980s, many senior managers at the bank wouldn’t try new ideas because “David might not like it.”⁸⁵ In contrast, Citibank during the same era was a “loosely structured corporation fueled by a chaotic kind of creativity . . . a corporate survival of the fittest” among highly talented people well rewarded for championing innovative ideas.⁸⁶

Burroughs president Ray W. Macdonald stifled individual initiative. He drove away nearly all talented people who had a penchant for experimentation and publicly humiliated managers for failures and mistakes. A man "who [had] to prove he's the boss every day," Macdonald centralized all power and decisions in himself—making the product managers "almost a direct extension of his office." Instead of viewing customer problems as opportunities for evolution (like 3M did), Macdonald prided himself on keeping customers "sullen but not rebellious." Even though Burroughs had a technical lead over IBM in computers in the early 1960s, Macdonald inhibited his managers from seizing one of the biggest business opportunities of the century.⁸⁷

Texas Instruments. During the 1950s and 1960s, Texas Instruments attained well-deserved acclaim as a highly innovative company under the guidance of chief executive Patrick Haggerty, who created an environment where ideas and innovations bubbled up from the lowest levels of the company.⁸⁸ However, Haggerty's successors, Mark Shepard and Fred Bucy, reversed this approach and instituted a top-down, autocratic approach that obliterated TI's entrepreneurial culture through fear and intimidation. If they saw something in a presentation they didn't like, they'd interrupt by saying, "That's bullshit! If that's all you have to say, we don't want to hear it." They'd yell, pound tables, and throw objects across the room. As an ex-TI manager described: "[Shepard and Bucy] don't have faith in their people. . . . Lower managers lost a great deal of authority. Much of their control [was] shifted into headquarters. Proposed products were defined and redefined there ad infinitum. Eventually, you were just given a product that was a square peg and told to fit it into the round hole of the market."⁸⁹ During the late 1970s and 1980s, TI lost its position as one of the most respected companies in America and suffered significant losses, while HP continued to be widely admired and highly profitable.

STICK TO THE KNITTING? STICK TO THE CORE!

In their 1982 book *In Search of Excellence*, Peters and Waterman counseled "Stick to the Knitting," meaning, in their words, "the odds for excellent performance seem strongly to favor those companies that stay reasonably close to the businesses they know."⁹⁰ On the surface, such a precept does not square with the evolutionary perspective we've presented in this chapter. Indeed, if 3M had defined its knitting as mining or sandpaper, then 3M wouldn't be what it is today—nor would we have those fabulous Post-it tape flags that have helped us keep organized while writing this book.

Furthermore, Norton stuck much closer to its knitting than 3M—and just look at the results. Zenith, too, stuck much closer to its knitting (television and radio) than Motorola—right into decline. J&J had no consumer goods experience when it began selling baby powder. Marriott had no background in hotels when it branched into that business. HP had no expertise in the computer business in the 1960s when it launched its first computer product. Disney had no knowledge of the theme park business when it created Disneyland. IBM had no background in electronics when it moved into computers. Boeing had virtually no experience in the commercial aircraft business when it did the 707. Had American Express stuck to its knitting (freight express), it probably wouldn't exist today.

We're not saying that evolutionary progress equals wanton diversification, or even that a focused business strategy is necessarily bad. Wal-Mart, for example, has thus far remained resolutely focused on one industry—discount retailing—while simultaneously stimulating evolution within that narrow focus. Nor are we saying that the concept of "Stick to the knitting" makes no sense. The real question is: *What* is the "knitting" in a visionary company? Our answer: Its core ideology.

Preserve the Core/Stimulate Progress

To the five lessons just given we must therefore add a sixth: Never forget to preserve the core while stimulating evolutionary progress. Keep in mind that evolution involves both variation *and* selection. In a visionary company, like 3M, selection involves two key questions. The first is simply pragmatic: Does it work? But just as important is the second question: Does it fit with our core ideology?

Since the time of William McKnight, 3M has sought to create innovative solutions to real human problems—that's what the company is all about. Variations at 3M must be new, useful, and reliable (key elements of 3M's core ideology) in order to stand a good chance of being selected. Certainly no one at 3M would stop Spence Silver from spending his 15 percent experimental doodling time on his bizarre glue that didn't glue. But, equally important, 3M didn't select the mutant adhesive until Silver married it to Art Fry's church choir problem, demonstrated to other 3Mers that the weird little Post-it notes were useful, and proved that they could be produced with 3M quality and reliability. You can't win a "Genesis Grant" to develop a me-too product at 3M. You don't become a member of the Carlton Society without an *original* technical contribution. You'll never survive as a division manager if your products prove consistently unreliable in customer hands. 3M stimulates progress with awesome vigor

for a \$13 billion company, but just as tenaciously preserves its core ideology.

Similarly, if a Wal-Mart experiment doesn't add value to customers, it will not be selected. If a J&J branch grows contrary to the credo, it will be pruned away. If a zealous marketing manager at Hewlett-Packard tries to launch a mutant new business that makes no technical contribution, he or she will find little support. If a Marriott opportunity would cause the company to veer wildly from its purpose of "making people away from home feel that they're among friends and really wanted," it will look instead for other opportunities. If a Sony "seed" leads only to technically mundane or low-quality "fruit," the company will sow other seeds.

Core ideology serves as a bonding glue and guiding force that holds a visionary company together while it mutates and evolves. For all its mutations, far-flung enterprises, and small divisions, we found a remarkable cohesion at 3M. Indeed, 3Mers bond to their company with the same almost cult-like dedication we saw at P&G, Disney, and Nordstrom. The same holds true for HP, Motorola, and Wal-Mart—three companies that rival 3M as self-mutation machines, yet cling tenaciously to their core ideologies.

Like the genetic code in the natural world, which remains fixed while species vary and evolve, core ideology in a visionary company remains unchanged throughout all its mutations. Indeed, it is the very presence of these fixed, guiding ideals that gives a visionary company something extra that evolving species in the natural world can never have: a purpose and a spirit. In the words of William McKnight reflecting on his sixty-five-year relationship with 3M and its ideals:

It is proper to emphasize how much we depend on each other [and our shared values]. Our challenge, while stressing this important lesson of humanity, lies in maintaining, at the same time, a proper respect for the individual. . . . To continue our progress and service to America and the world, we need a healthy appreciation for those who exercise . . . the option for excellence, permitting the creation of something for all of us, enriching lives with new ideas and products. The best and hardest work is done in the spirit of adventure and challenge.⁹¹

2

chapter 8

HOME-GROWN MANAGEMENT



From now on, [choosing my successor] is the most important decision I'll make. It occupies a

considerable amount of thought almost every day.

JACK WELCH, CEO, GENERAL ELECTRIC, SPEAKING ABOUT SUCCESSION PLANNING IN 1991—NINE YEARS BEFORE HIS ANTICIPATED RETIREMENT.⁹²

One responsibility [we] considered paramount is seeing to the continuity of capable senior leadership. We have always striven to have proven backup candidates available, employed transition training programs to best prepare the prime candidates, and been very open about [succession planning] We believe that continuity is immensely valuable.

ROBERT W. GALYIN, FORMER TEAM MEMBER OF THE CHIEF EXECUTIVE OFFICE, MOTOROLA CORPORATION, 1991⁹³